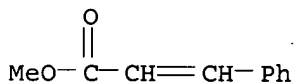


=> s 103-26-4/rn
L1 1 103-26-4/RN

=> d

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2005 ACS on STN
RN 103-26-4 REGISTRY
ED Entered STN: 16 Nov 1984
CN 2-Propenoic acid, 3-phenyl-, methyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Cinnamic acid, methyl ester (6CI, 8CI)
OTHER NAMES:
CN 3-Phenyl-2-propenoic acid methyl ester
CN 3-Phenylacrylic acid methyl ester
CN Methyl 3-phenyl-2-propenoate
CN Methyl 3-phenylacrylate
CN Methyl 3-phenylpropenoate
CN Methyl cinnamate
CN Methyl cinnamylate
CN NSC 9411
FS 3D CONCORD
MF C10 H10 O2
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS,
BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,
CHEMINFORMRX, CHEMLIST, CIN, CSChem, DETHERM*, EMBASE, GMELIN*, IFICDB,
IFIPAT, IFIUDb, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC,
PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1560 REFERENCES IN FILE CA (1907 TO DATE)
11 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1561 REFERENCES IN FILE CAPLUS (1907 TO DATE)
42 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> file caplus

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1561 103-26-4
3335688 PREP/RL
L2 342 103-26-4/PREP
(103-26-4 (L) PREP/RL)

=> s 103-26-4/pur
1561 103-26-4
215487 PUR/RL
L3 12 103-26-4/PUR
(103-26-4 (L) PUR/RL)

=> s 103-26-4/proc
1561 103-26-4
3720892 PROC/RL
L4 63 103-26-4/PROC
(103-26-4 (L) PROC/RL)

=> s l2 or l3 or l4
L5 403 L2 OR L3 OR L4

=> s l5 and polyaniline
12250 POLYANILINE
L6 4 L5 AND POLYANILINE

=> d 1-4 ibib abs hitstr

L6 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:400872 CAPLUS

DOCUMENT NUMBER: 143:79220

TITLE: Polyaniline-supported acid catalyst:
Esterification of cinnamic acid with alcohols
AUTHOR(S): Palaniappan, Srinivasan; Sairam, Malladi
CORPORATE SOURCE: Organic Coatings and Polymers Division, Indian
Institute of Chemical Technology, Hyderabad, 500007,
India

SOURCE: Journal of Applied Polymer Science (2005), 96(5),
1584-1590

CODEN: JAPNAB; ISSN: 0021-8995

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

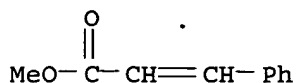
AB Polyaniline-supported acid salts such as polyaniline
-hydrochloride, polyaniline-sulfate, and polyaniline
-nitrate were prepared by oxidation of aniline using benzoyl peroxide and
ammonium persulfate as oxidizing agents. Polyaniline salts were
used as catalysts in the esterification of cinnamic acid with alcs.
Polyaniline-sulfate salt was found to be the best catalyst for the
esterification of cinnamic acid. The reusability, handling, and recovery
of the catalyst were found to be good. The yield of the ester depended on
the type of the polyaniline salt, amount of the catalyst, amount of
alc., and both the time and the temperature of the reaction.

IT 103-26-4P, Methyl cinnamate

RL: SPN (Synthetic preparation); PREP (Preparation)
(cinnamic acid esterification catalyzed by polyaniline
sulfate, nitrate, and hydrochloride)

RN 103-26-4 CAPLUS

CN 2-Propenoic acid, 3-phenyl-, methyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:203581 CAPLUS
 DOCUMENT NUMBER: 140:235501
 TITLE: Esterification process for preparation of cinnamate esters using **polyaniline** salts as catalysts
 INVENTOR(S): Palaniappan, Srinivasan; Sairam, Malladi
 PATENT ASSIGNEE(S): India
 SOURCE: U.S. Pat. Appl. Publ., 5 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004049068	A1	20040311	US 2002-75933	20020213
PRIORITY APPLN. INFO.:			US 2002-75933	20020213

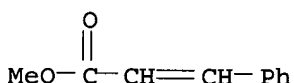
OTHER SOURCE(S): CASREACT 140:235501

AB A process for preparation of cinnamate esters (e.g., Me cinnamate) using **polyaniline** salts as the esterification catalyst is described which comprises esterifying cinnamic acid directly with an aliphatic monohydric alc. (e.g., methanol) in the presence of a **polyaniline** salt (e.g., benzoyl peroxide-treated aniline-sulfuric acid catalyst system) as the catalyst at 30-80° for 4-24 h, removing the catalyst from the reaction mixture, and separating the desired ester by a conventional method.

IT 103-26-4P, Methyl cinnamate
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (esterification process for preparation of cinnamate esters using **polyaniline** salts as catalysts)

RN 103-26-4 CAPLUS

CN 2-Propenoic acid, 3-phenyl-, methyl ester (9CI) (CA INDEX NAME)

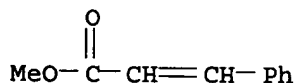


L6 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2003:421742 CAPLUS
 DOCUMENT NUMBER: 139:350311
 TITLE: Benzoyl peroxide oxidation route to **polyaniline** salt and its use as catalyst in the esterification reaction
 AUTHOR(S): Sai Ram, Malladi; Palaniappan, Srinivasan
 CORPORATE SOURCE: Organic Coatings & Polymers Division, Indian Institute of Chemical Technology, Hyderabad, 500007, India
 SOURCE: Journal of Molecular Catalysis A: Chemical (2003), 201(1-2), 289-296
 CODEN: JMCCF2; ISSN: 1381-1169
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 139:350311

AB Aniline was oxidized to **polyaniline** salt using benzoyl peroxide as an oxidizing agent in the presence of sulfuric acid and sodium lauryl sulfate surfactant. The polymer sample was characterized using IR, X-ray diffraction, particle size, resistance and d. measurements.

Polyaniline salt was used as catalyst for the esterification reaction of carboxylic acids with methanol. The process is being reported for the first time. Preparation of catalyst, recovery and reusability of the catalyst are found to be good.

IT 103-26-4P, Methyl cinnamate
RL: SPN (Synthetic preparation); PREP (Preparation)
(benzoyl peroxide oxidation route to polyaniline salt and use as esterification reaction catalyst)
RN 103-26-4 CAPLUS
CN 2-Propenoic acid, 3-phenyl-, methyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:133722 CAPLUS

DOCUMENT NUMBER: 138:24465

TITLE: Esterification of carboxylic acids with alcohols catalyzed by polyaniline salts

AUTHOR(S): Palaniappan, Srinivasan; Ram, Malladi Sai

CORPORATE SOURCE: Organic Coatings and Polymers, Indian Institute of Chemical Technology, Hyderabad, 500 007, India

SOURCE: Green Chemistry (2002), 4(1), 53-55

CODEN: GRCHFJ; ISSN: 1463-9262

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 138:24465

AB Polyaniline salts such as polyaniline hydrochloride, sulfate, nitrate, phosphate and p-toluenesulfonate are used as catalysts in the esterification of carboxylic acids with alcs. The activity, recovery, reusability and handling of the catalysts are found to be good. This process is being reported for the first time.

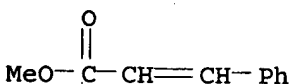
IT 103-26-4P, Cinnamic acid, methyl ester

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of esters via esterification of carboxylic acids with alcs. catalyzed by polyaniline salts)

RN 103-26-4 CAPLUS

CN 2-Propenoic acid, 3-phenyl-, methyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 1 CASREACT COPYRIGHT 2005 ACS on STN

AN 138:24465 CASREACT

TI Esterification of carboxylic acids with alcohols catalyzed by polyaniline salts

AU Palaniappan, Srinivasan; Ram, Malladi Sai

CS Organic Coatings and Polymers, Indian Institute of Chemical Technology, Hyderabad, 500 007, India

SO Green Chemistry (2002), 4(1), 53-55

CODEN: GRCHFJ; ISSN: 1463-9262

PB Royal Society of Chemistry

DT Journal

LA English

CC 23-17 (Aliphatic Compounds)

AB Polyaniline salts such as polyaniline hydrochloride, sulfate, nitrate, phosphate and p-toluenesulfonate are used as catalysts in the esterification of carboxylic acids with alcs. The activity, recovery, reusability and handling of the catalysts are found to be good. This process is being reported for the first time.

ST carboxylic acid alc esterification; esterification catalyst polyaniline salt

IT Esterification

Esterification catalysts

Green chemistry

(preparation of esters via esterification of carboxylic acids with alcs. catalyzed by polyaniline salts)

IT Alcohols, reactions

Carboxylic acids, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of esters via esterification of carboxylic acids with alcs. catalyzed by polyaniline salts)

IT Esters, preparation

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of esters via esterification of carboxylic acids with alcs. catalyzed by polyaniline salts)

IT 57-11-4, Stearic acid, reactions 112-30-1, 1-Decanol 122-59-8,

Phenoxyacetic acid 124-07-2, Caprylic acid, reactions 142-62-1,

Caproic acid, reactions 143-07-7, Lauric acid, reactions 544-63-8,

Myristic acid, reactions 621-82-9, Cinnamic acid, reactions 2834-05-1,

11-Bromoundecanoic acid 22204-53-1, Naproxen

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of)

IT 29961-02-2 64316-22-9, Benzenamine, homopolymer, nitrate 89183-45-9,

Benzenamine, homopolymer, hydrochloride 121220-41-5, Benzenamine,

homopolymer, 4-methylbenzene sulfonate 121220-43-7, Benzenamine,

homopolymer, phosphate

RL: CAT (Catalyst use); USES (Uses)

(preparation of esters via esterification of carboxylic acids with alcs. catalyzed by polyaniline salts)

IT 89-78-1, Menthol

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of esters via esterification of carboxylic acids with alcs. catalyzed by polyaniline salts)

IT 89-48-5P 103-26-4P, Cinnamic acid, methyl ester 106-18-3P, Lauric

acid, butyl ester 106-33-2P, Lauric acid, ethyl ester 106-70-7P

111-11-5P, Caprylic acid, methyl ester 111-82-0P, Lauric acid, methyl

ester 112-61-8P, Stearic acid, methyl ester 124-10-7P, Myristic acid,

methyl ester 2065-23-8P, Phenoxyacetic acid, methyl ester 3681-78-5P,

Lauric acid, propyl ester 6287-90-7P, 11-Bromoundecanoic acid, methyl

ester 7143-18-2P 10233-13-3P, Lauric acid, isopropyl ester

26159-35-3P 36528-28-6P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of esters via esterification of carboxylic acids with alcs. catalyzed by polyaniline salts)

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD

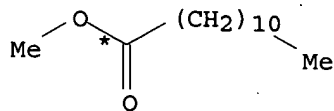
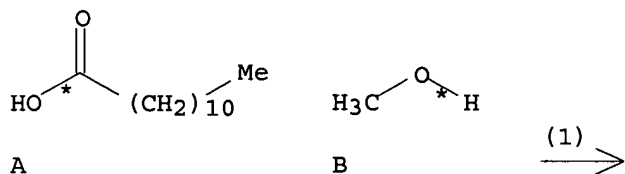
RE

(1) Anastas, P; Green Chemistry: Theory and Practice 1998

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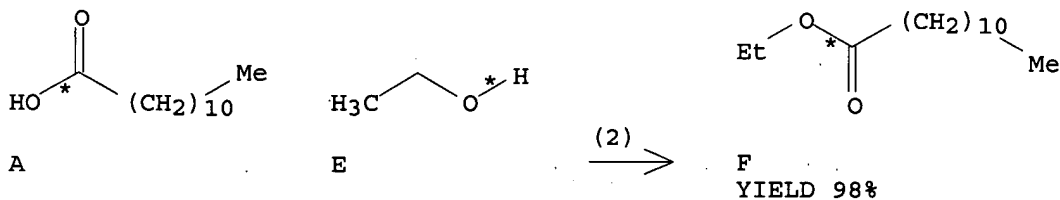
RX(1) OF 16 A + B ==> C



C
YIELD 99%

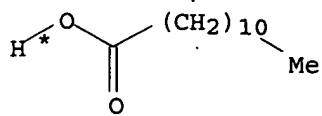
RX(1) RCT A 143-07-7, B 67-56-1
 PRO C 111-82-0
 CAT 29961-02-2 Benzenamine, homopolymer, sulfate
 SOL 67-56-1 MeOH
 NTE green chem.-catalyst, optimization study, optimized on catalyst

RX(2) OF 16 A + E ==> F

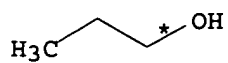


RX(2) RCT A 143-07-7, E 64-17-5
 PRO F 106-33-2
 CAT 29961-02-2 Benzenamine, homopolymer, sulfate
 SOL 64-17-5 EtOH
 NTE green chem.-catalyst

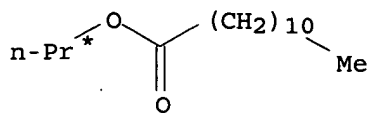
RX(3) OF 16 A + G ==> H



A



G

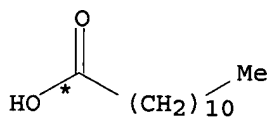


H

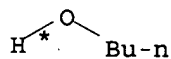
YIELD 98%

RX(3) RCT A 143-07-7, G 71-23-8
 PRO H 3681-78-5
 CAT 29961-02-2 Benzenamine, homopolymer, sulfate
 SOL 71-23-8 PrOH
 NTE green chem.-catalyst

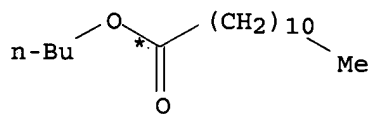
RX(4) OF 16 A + I \implies J



A



I

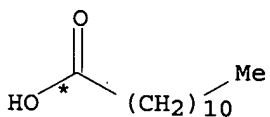


J

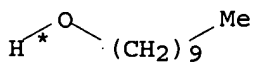
YIELD 98%

RX(4) RCT A 143-07-7, I 71-36-3
 PRO J 106-18-3
 CAT 29961-02-2 Benzenamine, homopolymer, sulfate
 SOL 71-36-3 BuOH
 NTE green chem.-catalyst

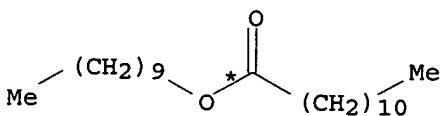
RX(5) OF 16 A + K \implies L



A



K



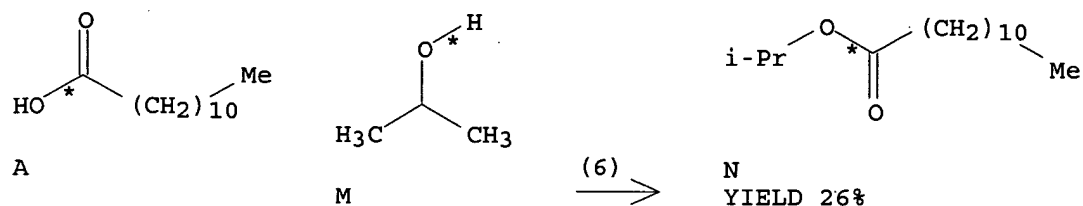
L

YIELD 98%

RX(5) RCT A 143-07-7, K 112-30-1

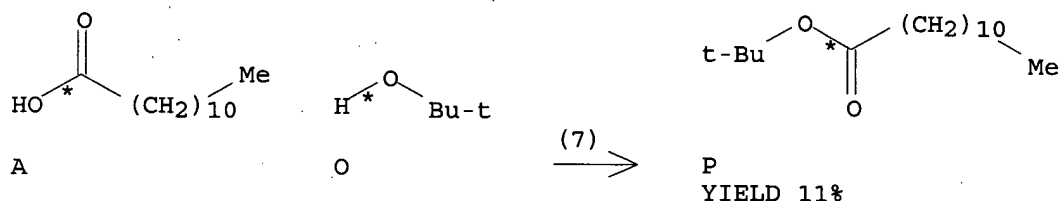
PRO L 36528-28-6
 CAT 29961-02-2 Benzenamine, homopolymer, sulfate
 SOL 112-30-1 1-Decanol
 NTE green chem.-catalyst

RX(6) OF 16 A + M ==> N



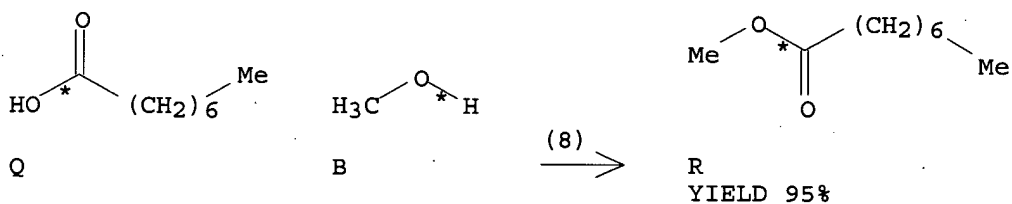
RX(6) RCT A 143-07-7, M 67-63-0
 PRO N 10233-13-3
 CAT 29961-02-2 Benzenamine, homopolymer, sulfate
 SOL 67-63-0 Me2CHOH
 NTE green chem.-catalyst

RX(7) OF 16 A + O ==> P



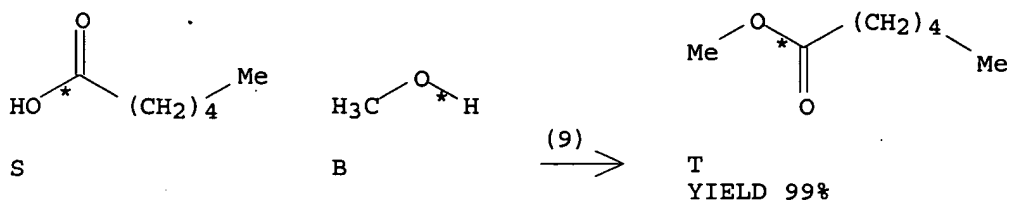
RX(7) RCT A 143-07-7, O 75-65-0
 PRO P 7143-18-2
 CAT 29961-02-2 Benzenamine, homopolymer, sulfate
 SOL 75-65-0 t-BuOH
 NTE green chem.-catalyst

RX(8) OF 16 Q + B ==> R



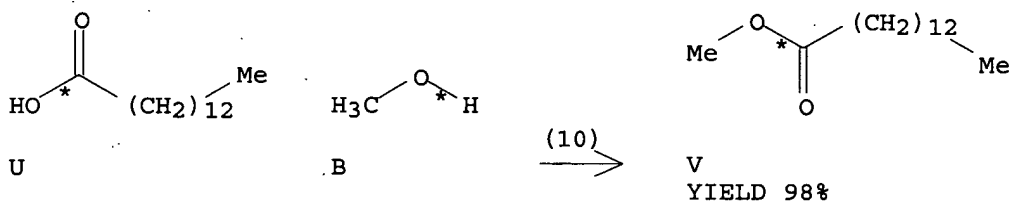
RX(8) RCT Q 124-07-2, B 67-56-1
 PRO R 111-11-5
 CAT 29961-02-2 Benzenamine, homopolymer, sulfate
 SOL 67-56-1 MeOH
 NTE green chem.-catalyst

RX(9) OF 16 S + B ==> T



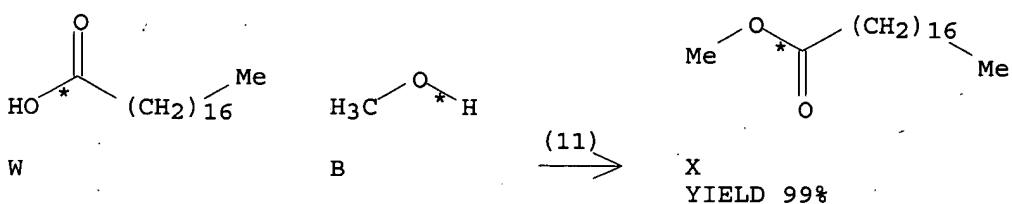
RX(9) RCT S 142-62-1, B 67-56-1
 PRO T 106-70-7
 CAT 29961-02-2 Benzenamine, homopolymer, sulfate
 SOL 67-56-1 MeOH
 NTE green chem.-catalyst

RX(10) OF 16 U + B ==> V



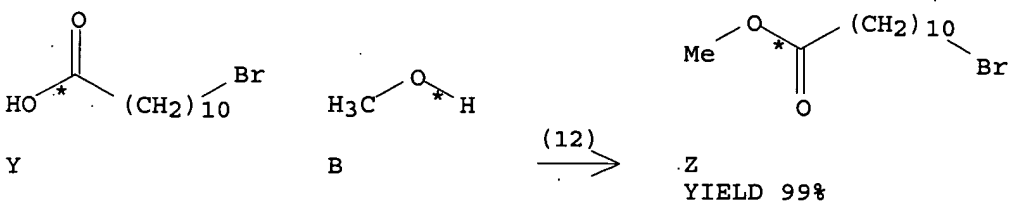
RX(10) RCT U 544-63-8, B 67-56-1
 PRO V 124-10-7
 CAT 29961-02-2 Benzenamine, homopolymer, sulfate
 SOL 67-56-1 MeOH
 NTE green chem.-catalyst

RX(11) OF 16 W + B ==> X



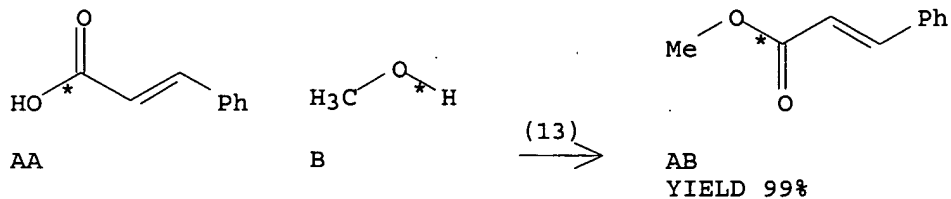
RX(11) RCT W 57-11-4, B 67-56-1
 PRO X 112-61-8
 CAT 29961-02-2 Benzenamine, homopolymer, sulfate
 SOL 67-56-1 MeOH
 NTE green chem.-catalyst

RX(12) OF 16 Y + B ==> Z



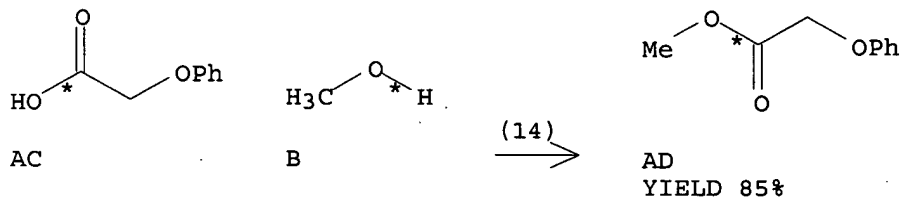
RX(12) RCT Y 2834-05-1, B 67-56-1
 PRO Z 6287-90-7
 CAT 29961-02-2 Benzenamine, homopolymer, sulfate
 SOL 67-56-1 MeOH
 NTE green chem.-catalyst

RX(13) OF 16 AA + B ==> AB



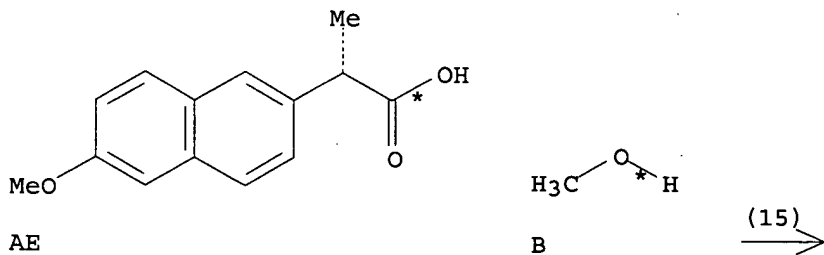
RX(13) RCT AA 621-82-9, B 67-56-1
 PRO AB 103-26-4
 CAT 29961-02-2 Benzenamine, homopolymer, sulfate
 SOL 67-56-1 MeOH
 NTE green chem.-catalyst

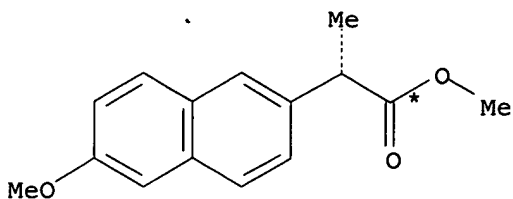
RX(14) OF 16 AC + B ==> AD



RX(14) RCT AC 122-59-8, B 67-56-1
 PRO AD 2065-23-8
 CAT 29961-02-2 Benzenamine, homopolymer, sulfate
 SOL 67-56-1 MeOH
 NTE green chem.-catalyst

RX(15) OF 16 AE + B ==> AF

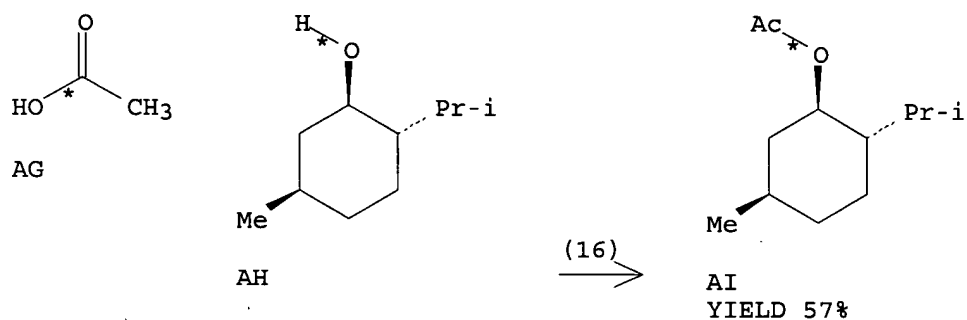




AF
YIELD 81%

RX(15) RCT AE 22204-53-1, B 67-56-1
PRO AF 26159-35-3
CAT 29961-02-2 Benzenamine, homopolymer, sulfate
SOL 67-56-1 MeOH
NTE green chem.-catalyst

RX(16) OF 16 AG + AH ==> AI



RX(16) RCT AG 64-19-7, AH 89-78-1
PRO AI 89-48-5
CAT 29961-02-2 Benzenamine, homopolymer, sulfate
SOL 89-78-1 Cyclohexanol, 5-methyl-2-(1-methylethyl)-, (1R,2S,5R)-rel-
NTE green chem.-catalyst

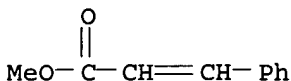
=> SET NOTICE LOGIN DISPLAY

NOTICE SET TO OFF FOR DISPLAY COMMAND
SET COMMAND COMPLETED

Polyaniline salt was used as catalyst for the esterification reaction of carboxylic acids with methanol. The process is being reported for the first time. Preparation of catalyst, recovery and reusability of the catalyst are found to be good.

IT 103-26-4P, Methyl cinnamate
 RL: SPN (Synthetic preparation); **PREP (Preparation)**
 (benzoyl peroxide oxidation route to **polyaniline** salt and use as esterification reaction catalyst)

RN 103-26-4 CAPLUS
 CN 2-Propenoic acid, 3-phenyl-, methyl ester (9CI) (CA INDEX NAME)



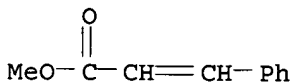
REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2002:133722 CAPLUS
 DOCUMENT NUMBER: 138:24465
 TITLE: Esterification of carboxylic acids with alcohols catalyzed by **polyaniline** salts
 AUTHOR(S): Palaniappan, Srinivasan; Ram, Malladi Sai
 CORPORATE SOURCE: Organic Coatings and Polymers, Indian Institute of Chemical Technology, Hyderabad, 500 007, India
 SOURCE: Green Chemistry (2002), 4(1), 53-55
 CODEN: GRCHFJ; ISSN: 1463-9262
 PUBLISHER: Royal Society of Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 138:24465

AB **Polyaniline** salts such as **polyaniline** hydrochloride, sulfate, nitrate, phosphate and p-toluenesulfonate are used as catalysts in the esterification of carboxylic acids with alcs. The activity, recovery, reusability and handling of the catalysts are found to be good. This process is being reported for the first time.

IT 103-26-4P, Cinnamic acid, methyl ester
 RL: SPN (Synthetic preparation); **PREP (Preparation)**
 (preparation of esters via esterification of carboxylic acids with alcs. catalyzed by **polyaniline** salts)

RN 103-26-4 CAPLUS
 CN 2-Propenoic acid, 3-phenyl-, methyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT